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Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in this patent application:

Claims 1 to 12. (canceled)

13. (currently amended) A method for producing a mechanical part by computer-aided design including a preliminary step in which body portions of the part are broken down into elementary strata, followed by steps including manufacture of the elementary strata to form manufactured strata and reconstruction of the part by superposing and assembling the manufactured strata, wherein the method comprises the steps of:

defining at least one fluid transport circuit in the part;

breaking down the fluid transport circuit into a plurality of elementary chambers as part of the break-down of ~~associated with~~ the part and during the break-down of the part;

producing the elementary chambers in the manufactured elementary strata ~~of the part~~ during the manufacture of the manufactured elementary strata; and

completely reconstructing the fluid transport circuit during the superposition and the assembly of the manufactured elementary strata.

14. (currently amended) The method of claim 13 which further includes the steps of:

~~breaking down~~ ~~breaking down~~ an ~~additional~~ isolating circuit ~~coupled with the fluid transport circuit~~ into elementary isolating chambers as part of the break-down ~~of associated with~~ the part and during the break-down of the part;

producing the elementary isolating chambers in the ~~manufactured elementary strata of the part~~ during the manufacture of the ~~manufactured elementary~~ strata; and

reconstructing the isolating circuit during the superposition and the assembly of the ~~manufactured elementary~~ strata.

15. (currently amended) A mechanical part including a body having at least one fluid transport circuit comprised of a plurality of channels formed in the body at a predetermined distance from a heat exchange surface associated with the body, wherein the part and the fluid transport circuit are produced by the method of claim 13 ~~or 14~~ ~~4-er-2~~, wherein the fluid transport circuit is completely reconstructed during the assembly of the ~~manufactured elementary~~ strata, and wherein the plurality of elementary chambers are provided in at least one portion of the ~~manufactured elementary~~ strata and are placed in fluid-tight communication.

16. (currently amended) The mechanical part of claim 15 wherein, following reconstruction of the manufactured elementary strata, the fluid transport circuit forms a three-dimensional network of ~~plurality of parallel~~ channels in the body of the part which follow ~~ex-epoxy~~ surface portions of the part at a predetermined distance from the surface portions.

17. (currently amended) The mechanical part of claim 15 wherein, following reconstruction of the manufactured elementary strata, the fluid transport circuit forms a layer-shaped chamber in the body of the part.

18. (previously presented) The mechanical part of claim 15 wherein the fluid transport circuit includes a connection to a temperature regulating device.

19. (previously presented) The mechanical part of claim 15 wherein interior portions of the fluid transport circuit include a plurality of transverse fins providing mechanical reinforcement and stirring the fluid.

20. (currently amended) The mechanical part of claim 15 which, following reconstruction of the manufactured elementary strata, further includes an ~~additional~~ isolating circuit provided in at least one portion of the manufactured elementary strata and

having a plurality of elementary isolating chambers placed in fluid-tight communication.

21. (currently amended) The mechanical part of claim 20 wherein the isolating circuit is comprised of a plurality of follower ~~parallel~~ channels.

22. (previously presented) The mechanical part of claim 20 wherein the isolating circuit forms a layer-shaped chamber.

23. (currently amended) The mechanical part of claim 15 which further includes a mechanical adhesive between the manufactured elementary strata on regions of the part extending from the channels to outside portions of the part, and an adhesive with a predetermined thermal conductivity on regions of the part extending from the fluid transport circuit to surface portions of the part.

24. (currently amended) The mechanical part of claim 15 wherein the fluid transport circuit is filled with a fluid selected from a ~~the~~ group consisting of a heat exchange fluid, a thermal insulation fluid, a liquid material, a pulverulent material and a marking fluid.

25. (previously presented) The mechanical part of claim 15 wherein the mechanical part is a mold.

26. (new) The method of claim 13 wherein the elementary chambers are produced in the manufactured strata before the manufactured strata are reconstructed to form the fluid transport circuit.

27. (new) The method of claim 13 which further includes the step of combining the elementary chambers of the fluid transport circuit to form a cooling circuit in the body of the part.

28. (new) The method of claim 27 which further includes the step of combining the elementary chambers of the fluid transport circuit to form a three-dimensional network of channels in the body of the part.

29. (new) The method of claim 27 which further includes the step of combining the elementary chambers of the fluid transport circuit to form a layer-shaped chamber in the body of the part.

30. (new) The method of claim 13 wherein the step of producing the elementary chambers in the manufactured strata of

the part further includes the step of forming the elementary chambers in surface portions of the manufactured strata, to a depth which is less than a defined thickness of the manufactured strata.

31. (new) The method of claim 30 which further includes the step of combining the elementary chambers of the fluid transport circuit with surface portions of adjacent manufactured strata, to form the fluid transport circuit.

32. (new) The method of claim 14 which further includes the step of combining the elementary isolating chambers of the isolating circuit to form a thermal barrier between the fluid transport circuit and the body of the part.

33. (new) The method of claim 32 which further includes the step of forming the thermal barrier as a continuous thermal barrier.

34. (new) The method of claim 33 which further includes the step of combining the elementary isolating chambers of the isolating circuit to form a network of follower channels in the body of the part.

35. (new) The method of claim 33 which further

includes the step of combining the elementary isolating chambers of the isolating circuit to form a layer-shaped chamber in the body of the part.